

## PATENT COOPERATION TREATY

Re...

09 JAN 2006

From the INTERNATIONAL BUREAU

## PCT

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

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RECEIVED  
Ginza First Bldg  
05.10.12  
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Date of mailing (day/month/year)

06 October 2005 (06.10.2005)

Applicant's or agent's file reference

FP03-0386-00

IMPORTANT NOTIFICATION

International application No.

PCT/JP2004/000335

International filing date (day/month/year)

16 January 2004 (16.01.2004)

Applicant

HAMAMATSU PHOTONICS K.K. et al

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

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## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP03-0388-00	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2004/000335	International filing date (day/month/year) 16 January 2004 (16.01.2004)	Priority date (day/month/year) 20 January 2003 (20.01.2003) ]	
International Patent Classification (IPC) or national classification and IPC G01R 31/302			
Applicant HAMAMATSU PHOTONICS K.K.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report   |
| <input type="checkbox"/> Box No. II           | Priority  |
| <input type="checkbox"/> Box No. III          | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV           | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI           | Certain documents cited   |
| <input type="checkbox"/> Box No. VII          | Certain defects in the international application  |
| <input type="checkbox"/> Box No. VIII         | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 23 September 2005 (23.09.2005)
	Authorized officer Yoshiko Kuwahara
Facsimile No. +41 22 740 14 35	Telephone No. +41 22 338 90 90

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

Translation

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference <b>FP03-0386-00</b>		Date of mailing (day/month/year) <b>13-04-2004</b>	
		<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. <b>PCT/JP2004/000335</b>	International filing date (day/month/year) <b>16-01-2004</b>	Priority date (day/month/year) <b>20-01-2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>G01R 31/302</b>			
Applicant <b>HAMAMATSU PHOTONICS K.K.</b>			

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPBA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/IP  Facsimile No.	Date of completion of this opinion  Telephone No.	Authorized officer  Telephone No.
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/000335

Box No. I

Basis of the report

1. With regard to the language, this opinion has been established on the basis of:
- ☐ the international application in the language in which it was filed
- ☐ the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ on paper
- ☐ in electronic form
- c. time of filing/furnishing
- ☐ contained in the international application as filed
- ☐ filed together with the international application in electronic form
- ☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/000335

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims 1-12	YES
	Claims	NO
Inventive step (IS)	Claims	YES
	Claims 1-12	NO
Industrial applicability (IA)	Claims 1-12	YES
	Claims	NO

**2. Citations and explanations**

Document 1: JP 11-316226 A (NEC Corp.), 16 November 1999  
 Document 2: JP 2000-286314 A (NEC Corp.), 13 October 2000  
 Document 3: JP 54-128770 A (Mitsubishi Electric Corp.),  
 05 October 1979

**1. Claims 1 to 6**

The laser beam inspection device that is disclosed in document 1 has the following structure (specifically, refer to document 1, fig. 3 to 5 and the first embodiment), which comprises:

- a constant voltage source;
- a laser generation source;
- a laser scanning unit;
- a current variation detection unit for detecting variations in the current that flows through the power supply line; and
- a system control unit.

On the other hand, document 2 discloses a laser beam inspection device provided with a magnetic field detection device which detects changes in the magnetic

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/000335

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

field that is generated by the electric current rather than directly measuring the electric current. Therein, a SQUID is used as the magnetic field detection device (specifically, refer to fig. 1(A) and the explanation in relation thereto).

Therefore, it would be easy for a person skilled in the art to apply said technical feature to the laser beam inspection device that is disclosed in document 1.

In addition, it would be obvious that it is necessary to employ some sort of mounting structure when actually assembling the device (otherwise, it would be impossible to assemble the device).

Furthermore, the technique of amplifying by means of a lock-in amp in order to remove noise is merely a common practice technique for a person skilled in the art, as disclosed in document 2 (specifically, refer to paragraph [0063]).

Consequently, the inventions that are set forth in claims 1 to 6 do not involve an inventive step.

## 2. Claims 7 to 12

The laser beam inspection device that is disclosed in document 1 has the following structure (specifically, refer to document 1, fig. 12 to 14 and the third embodiment), which comprises:

- a constant voltage source;
- a laser generation source;
- a laser scanning unit;
- a voltage variation detection unit for detecting variations in the voltage that is generated the

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/000335

Box No. V

Reasoned statement under Rule 43bis1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

voltage that is applied to the material; and

- a system control unit.

On the other hand, document 3 discloses the feature of using an EO element in order to detect the changes in the current from the changes in the electrical field (specifically, refer to fig. 3).

Therefore, it would be easy for a person skilled in the art to apply said technical feature to the laser beam inspection device that is disclosed in document 1.

In addition, refer to section (1.) in relation to the mounting structure and the feature of amplifying by means of a lock-in amp.

As a result, the inventions that are set forth in claims 7 to 12 do not involve an inventive step.